

Health Taxes to Save Lives

Employing Effective Excise
Taxes on Tobacco, Alcohol,
and Sugary Beverages

The Task Force on Fiscal Policy for Health
April 2019

Introduction

The Task Force on Fiscal Policy for Health came together in 2018 to draw attention to the role that fiscal policies can play in the global dialogue on development, health, and domestic revenue mobilization. In particular, we find that large excise taxes on tobacco, alcohol, and sugary beverages are essential to reaching the targets set by the Sustainable Development Goals related to ensuring healthy lives, ending poverty, and promoting full and productive employment. Such taxes can also contribute to domestic revenue mobilization as highlighted for the case of tobacco taxes in the Addis Ababa Action Agenda.

As a group that has grappled with public health and fiscal policies from many perspectives including that of finance ministries, we have concluded that effective excise tax policies are an underutilized tool for curtailing unhealthy consumption of tobacco, alcohol, and sugary beverages. We call on all countries and the international community to act now to increase excise taxes on these products to save lives and fulfill the world's aspirations for a sustainable healthy future.

Executive Summary

More than 10 million premature deaths each year – about 16 percent of all deaths in the world – could be prevented by reducing consumption of three products: tobacco, alcohol, and sugary beverages. Without action today, the disease burden attributable to these products is going to rise, especially in low- and middle-income countries which can ill afford the associated productivity losses, healthcare costs, and household impoverishment.

Tobacco is the largest and best-documented health risk of the three products, accounting for 8 million deaths a year. Almost 3 million people die each year due to alcohol consumption. Sugar consumption is implicated in the growing burden of disease from obesity and diabetes that accounts for some 6 million deaths each year. Reducing sugary beverage consumption is a first step toward developing new strategies to address this latter threat to population health.

Most of these deaths occur in low- and middle-income countries, where rising incomes and sustained industry efforts at marketing are making these products more available and more affordable. As a result, consumption of all three products is rising.

Well-designed excise taxes are highly effective at reducing consumption of tobacco, alcohol, and sugary beverages. The response to price increase tends to be larger among the less wealthy and the young, benefiting them disproportionately in terms of health. Taxing these three products is justified not only by the large and growing health and economic costs they impose on users but also by strong economic arguments regarding market failures, negative externalities, and fiscal efficiency.

Indeed, few interventions have the power to save as many lives as raising tobacco, alcohol and sugary beverage taxes. And additional revenue that can be obtained from such tax increases, while secondary to the health gains, are substantial.

If all countries increased their excise taxes to raise prices on tobacco, alcohol, and sugary beverages by 50 percent, over 50 million premature deaths could be averted worldwide over the next 50 years while raising over US \$20 trillion of additional revenues in present discounted value. Raising taxes and prices further in future years would save additional lives and raise even more revenues.

Nevertheless, governments face strong opposition to raising taxes on tobacco, alcohol and sugary beverages from producers and their allies who persistently raise concerns about the impact of tax increases on revenues, employment, illicit trade, and the poor. Evidence from around the world demonstrates that these arguments are either false or greatly exaggerated, and none justify inaction. To the contrary, excise tax policy is an underutilized yet highly effective policy measure to reduce tobacco, alcohol, and sugary beverage consumption and reap huge health benefits.

This Report

For this report, the Task Force reviewed the evidence on the impact of tobacco, alcohol, and sugary beverage excise tax policy on consumption, health, and revenue outcomes. In addition, the Task Force commissioned an analysis of the potential impact of significant excise tax increases on these products. Based on this work, we arrived at the five key messages listed below. Within the report, we summarize the evidence behind each key message and end with our recommendations on the implementation of excise tax policies to improve health.

Key Messages

- Tobacco, alcohol, and sugary beverage consumption accounts for a large and growing share of premature death and disease, especially in low and middle-income countries. Without action today, the disease burden attributable to these products is going to rise.
- Raising the price of tobacco and alcohol by increasing excise taxes reduces consumption and saves lives, while generating additional tax revenues. Evidence is accumulating that excise taxes on sugary beverages can do the same. Yet, these taxes are underutilized as a policy tool.
- The economic rationale for raising excise taxes on tobacco, alcohol, and sugary beverages is well-established. The markets for these products are characterized by significant market failures that result in harmful consumption, preventable deaths, and large economic costs to society.
- Implementing taxes on products that harm health is a test of government effort and resolve. Affected industries vigorously oppose tax increases with false or misleading statements related to revenues, employment, illicit trade, and impacts on the poor. Most of this criticism fails to stand up to analysis; none of it justifies inaction.
- Raising taxes on tobacco can do more to reduce premature mortality than any other single health policy. Raising taxes on alcohol will also significantly reduce premature deaths and disability. Raising taxes on sugary beverages is prudent because taxes can incentivize healthier diets and address the growing burden of disease from obesity and diabetes. Taxes on all three products would raise valuable revenues.

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Tobacco, Alcohol, and Sugary Beverage Consumption Harms Health and Imposes Enormous Costs on Society

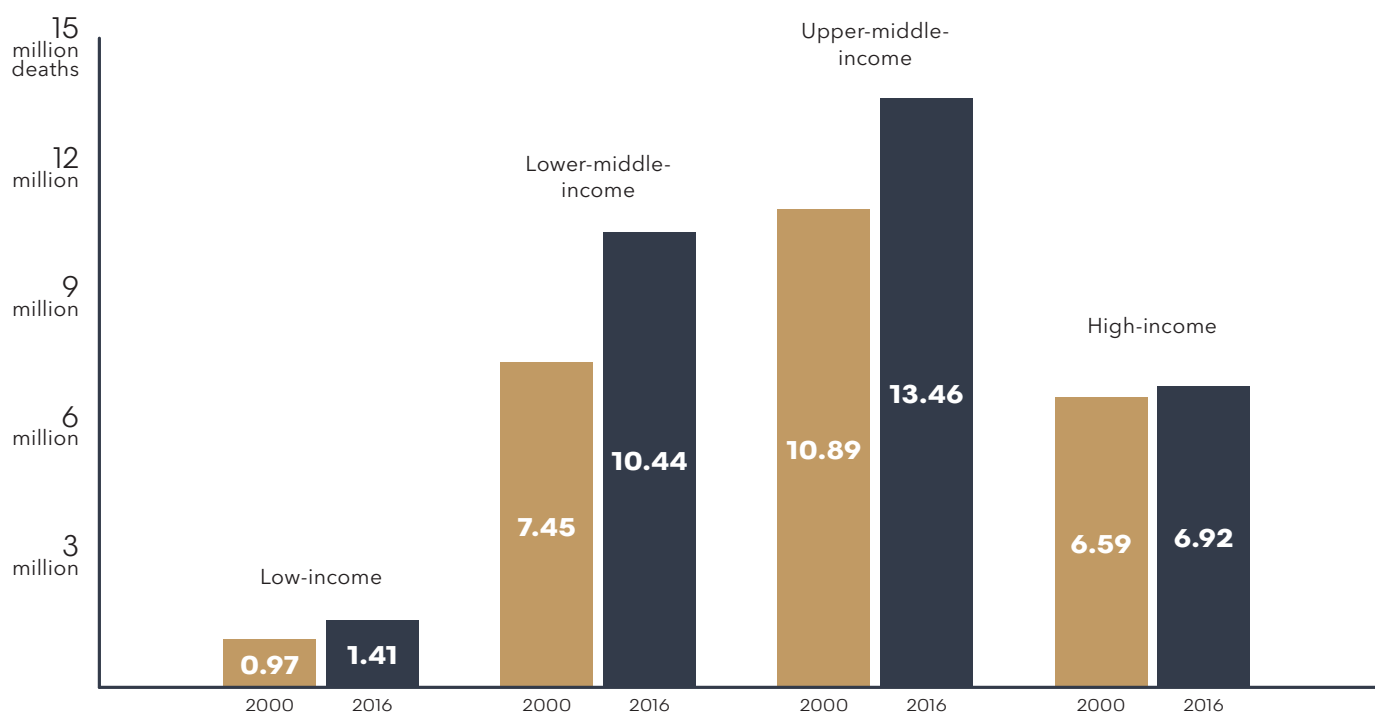
Noncommunicable diseases (NCDs) are the leading cause of death in the world, killing more than 41 million people each year and representing 70 percent of all deaths. Four groups of diseases account for three-quarters of these deaths: cardiovascular disease (17.9 million), cancers (9 million), respiratory diseases (3.8 million), and diabetes (1.6 million), and this burden is growing rapidly (WHO 2018; Figure 1). In low- and middle-income countries, half of NCD deaths occur before age 70, shortening the productive lives of working-age adults. By comparison, only 25 percent of deaths from NCDs in high-income countries occur before age 70 (WHO 2015a).

Many factors contribute to this worldwide rise of NCDs, including changing demographics, urbanization, industrialization, and mass marketing of unhealthy products. One set of factors stands out for being entirely preventable – unhealthy consumption patterns that contribute to noncommunicable disease and injuries. Chief among these are tobacco and alcohol, as well as

Tobacco, alcohol, and sugary beverage consumption accounts for a large and growing share of the world's burden of premature death and disease, especially in low- and middle-income countries. Consuming these products increases the risks of noncommunicable diseases (NCDs) that result in premature death, productivity losses, avoidable healthcare costs, and household impoverishment.

processed foods with added sugars – including sugary beverages. Rising incomes and sustained industry efforts to market these products in low- and middle-income countries are making these products more available and more affordable, and consumption of all three is increasing (WHO 2014b).

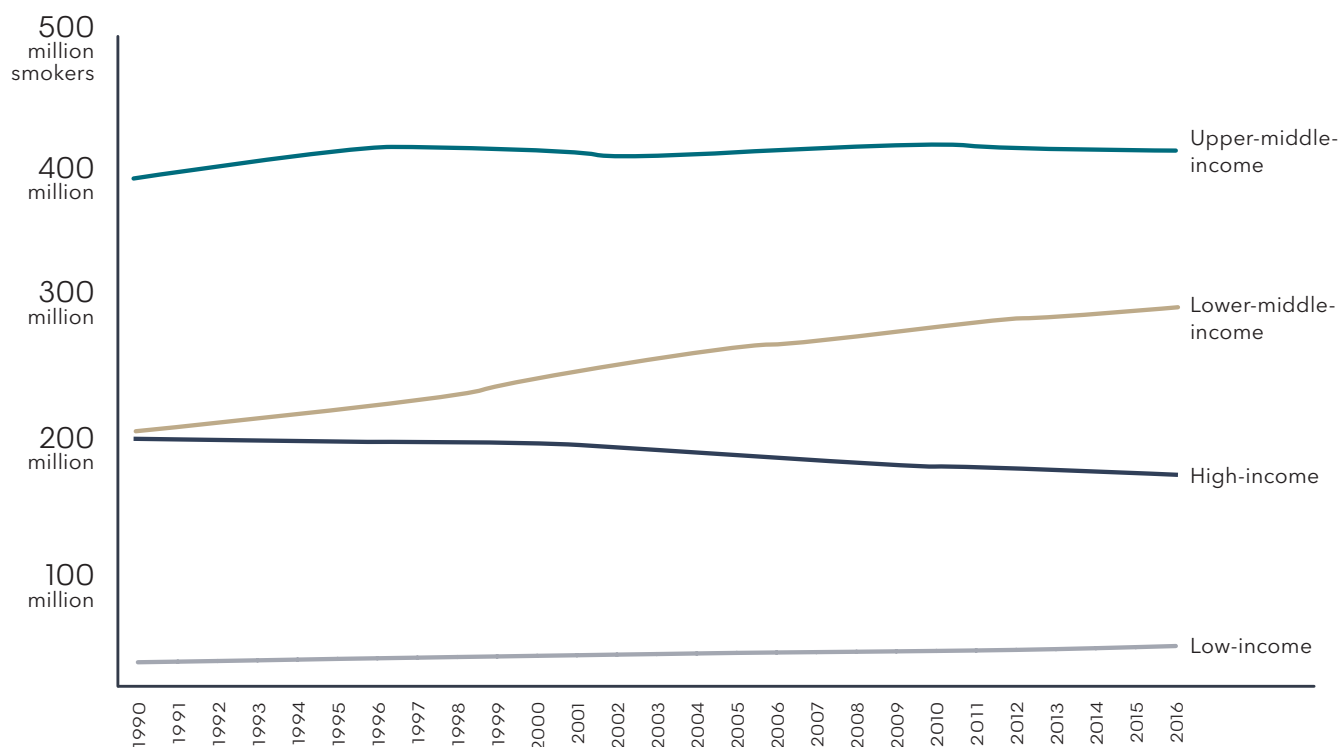
Figure 1: Annual NCD Deaths by Country Income Group in 2000 and 2016



Note: Includes four largest NCD categories: cardiovascular, cancer, chronic respiratory diseases, and diabetes.

Source: WHO 2018

Figure 2: Number of Smokers by Country Income Group, 1990-2016



Note: Data for 187 countries classified by 2016 World Bank country income groups.
Source: Computed from Global Burden of Disease 2018

Eight million people die each year from tobacco use or exposure, accounting for 13 percent of deaths worldwide (Collaborators GRF 2018).

Persistent consumption of almost any amount of tobacco creates severe health problems, many of which only manifest after many years. At least half of lifetime smokers will die before they reach 70 years of age, and the average loss of life from smoking is a full decade of life (Jha et al. 2015). More than 1 billion people smoke¹, one-fifth of the world's population over the age of 15 (WHO 2017b).

While the prevalence of smoking is declining modestly worldwide, the number of tobacco users is growing, especially in lower-middle-income countries due to population and income growth, even as the number of smokers in high-income countries declines (Figure 2).

Almost 3 million people die each year due to alcohol consumption, 5 percent of deaths worldwide (Collaborators GRF 2018).

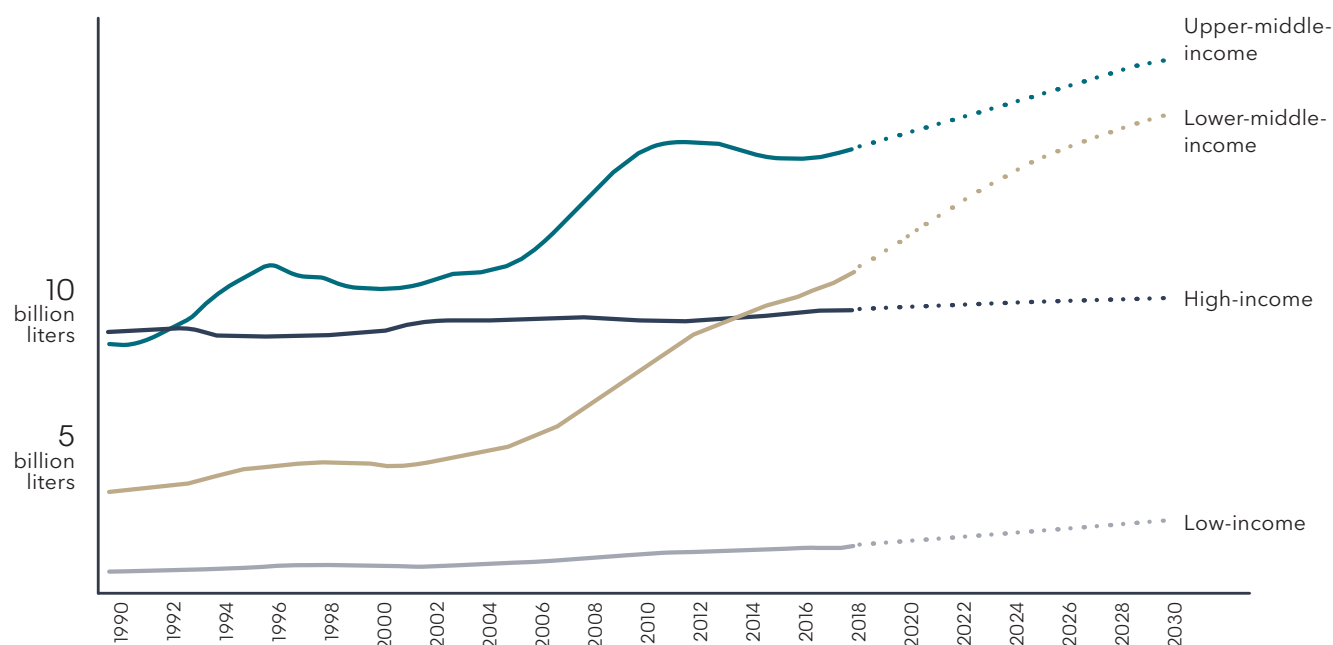
Alcohol-related harm derives from the volume of alcohol consumed and patterns of drinking. Excess consumption of alcohol imposes both immediate (e.g., injury) and longer-term harms (e.g., liver cirrhosis, mental health problems). Alcohol-related deaths and disability impact younger populations; 25 percent of total deaths among 20- to 39-year-olds are alcohol-attributable. In any year, about 40 percent of adults worldwide consumed at least some alcohol in the past year and approximately 16 percent of these drinkers engage in heavy episodic drinking² (WHO 2014a).

While there is large variation in the use of alcohol across countries and regions, alcohol sales have increased worldwide and are predicted to continue to rise, with the largest growth in lower-middle-income countries (Figure 3).

¹ The Task Force focused on smoked tobacco in this position paper given its dominance in the tobacco market (92 percent of the market) and the extensive evidence available regarding the effectiveness of its taxation.

² 60 or more grams of pure alcohol (roughly 5 U.S. standard drinks) on at least one occasion at least monthly (WHO 2014a).

Figure 3: Volume of Pure Alcohol Consumption by Country Income Group, 1990-2030



Note: Data for 189 countries classified by 2016 World Bank country income groups. Dotted segments denote predicted sales for years 2018-2030.
Source: Manthey J et al., manuscript in preparation

Over 4.5 million people die each year from being overweight or obese (Collaborators GRF 2018) and 1.6 million die of diabetes (WHO 2018).

Over 30 percent of the population is overweight or obese (Ng et al. 2014), over 400 million have diabetes (WHO 2016a), and rates are increasing worldwide. A major driver of obesity and diabetes is unhealthy diet, including increased consumption of highly processed food containing added sugars. Added sugar is a risk factor for dental diseases and even a small reduction in the risk of dental caries in childhood is significant later in life (WHO 2015b). One such source of added sugar in diets – *sugary beverage*³ consumption – is directly linked to weight gain, obesity, dental caries, and rising NCDs (Malik et al. 2013; Vartanian et al. 2007).

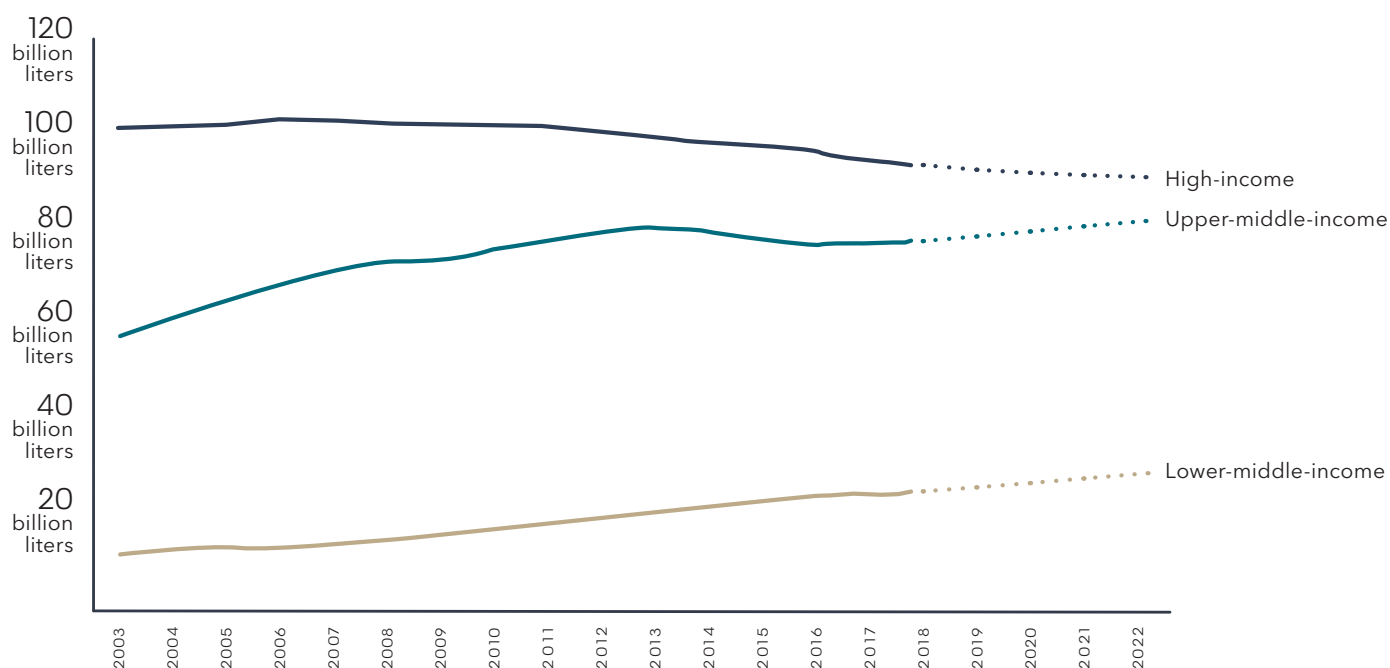
WHO recommends consuming no more than 10 percent of total calories from added sugar, and preferably less than 5 percent, yet a typical 12-ounce can of soda (355mL) contains approximately 5 percent of a 2000 kcal diet (10 to 13 teaspoons of added sugar) with no nutritional value (WHO 2015b; WCRF 2015). People consuming sugary beverages do not compensate for the added calories by eating less food, which leads to weight gain and obesity (Pan and Hu 2011). Consumption of sugary beverages by children

is associated with eating less healthy foods and being more sedentary (Gebremariam et al. 2017), all factors associated with an increase in the likelihood of childhood obesity. Overweight children are more prone to become overweight adults (Biro and Wien 2010). Sugary beverage consumption is also linked to under-nutrition, especially in some African and Latin American countries where some infants are given sugary beverages as a weaning food, increasing under-nutrition and stunting (Adair et al. 2013). Sugary beverage consumption increases the risk of diabetes directly by causing insulin resistance and indirectly through weight gain (Brownell et al. 2009; Ludwig 2002; Malik et al. 2010).

For these reasons, reducing consumption of sugary beverages is an important way to encourage healthier diets and can provide lessons for subsequent efforts to reduce added sugar in diets.

³ Sugary beverages or sugar-sweetened beverages refer to any beverage that is sweetened with sugar or other caloric sweeteners including brown sugar, corn sweeteners, corn syrup, dextrose, fructose, glucose, high fructose corn syrup, honey, lactose, malt syrup, maltose, molasses, raw sugar, and sucrose. Examples of sugary beverages include regular soda, fruit punch, sports drinks, energy drinks, sweetened waters, and coffee and tea beverages with added sugar.

Figure 4: World Carbonate⁴ Soft Drink Sales by Country Income Group, 2003-2022



Note: Data for 79 countries classified by 2016 World Bank country income groups. Dotted segments denote predicted sales for years 2018-22.
Source: Euromonitor 2018

Consumption of sugary beverages varies considerably across regions, with the highest levels of consumption in middle-income countries and the Americas (Singh et al. 2015). Sugary beverage consumption is increasing in lower- and upper-middle-income countries (Figure 4). These consumption data are likely to be conservative estimates because they only account for carbonated drinks and not other sugary beverages such as non-carbonated sugary drinks, sports drinks, and energy drinks.

Consumption of tobacco, alcohol, and sugary beverages imposes large health care costs and reduces economic productivity.

- The economic costs of smoking were estimated at over US\$1.4 trillion globally in 2012, the equivalent of 1.8 percent of GDP, with US\$422 billion spent on treating the diseases caused by smoking and US\$1 trillion in productivity losses (Goodchild et al. 2017).
- The annual economic costs from alcohol consumption were estimated at over 1 percent of GDP in middle- and high-income countries in 2009 (about US\$600 billion). Costs vary considerably across countries. For example, total costs of alcohol use in South Africa were estimated at 10 to 12 percent of the 2009 GDP (between US\$30 and US\$36 billion) (Rehm et al. 2009).

- Obesity and diabetes generate large economic costs,⁵ and sugary beverage consumption is one contributing factor to these health conditions. Few estimates are available for the economic costs of sugary beverage consumption by itself. A study in the United States estimated a \$0.01/ounce sugary beverage tax could save US\$23 billion in healthcare costs alone over 10 years (Long et al. 2015), and simulations showing how taxes would avert obesity and diabetes in the United Kingdom and Mexico indicate there would be savings in other countries as well (Sánchez-Romero et al. 2016; Briggs et al. 2016; Afshin et al. 2017).

People with lower incomes bear a disproportionate share of the associated burden of premature death and disease from tobacco, alcohol, and sugary beverages.

In most countries, people with lower incomes tend to smoke and consume sugary beverages more than those with higher incomes, suffering disproportionately from the attendant health and economic consequences (NCI 2016; Sassi et al. 2018). While alcohol consumption is often higher among wealthier groups, poorer individuals who do consume alcohol are more vulnerable to alcohol consumption problems and their consequences (WHO 2014a; Hemström 2002). Reducing consumption of tobacco, alcohol, and sugary beverages can also avoid impoverishment when households are exposed to high healthcare costs associated with NCDs (Jan et al. 2018).

⁴ Data on carbonated soft drink sales are presented here as a proxy for sugary beverages for which data is not available globally. Carbonated soft drinks include both regular and low-calorie sweetened, non-alcoholic drinks containing carbon dioxide. Non-carbonated sweetened drinks are not included.

⁵ Global annual economic costs of obesity have been estimated to be US\$2 trillion due to healthcare expenditures and productivity losses (Dobbs et al. 2014). For diabetes, healthcare costs alone were estimated at over US\$727 million in 2017 (IDF 2017).

Higher Excise Taxes Reduce Tobacco, Alcohol, and Sugary Beverage Use and Save Lives

The health impact of high and well-designed taxes on tobacco, alcohol, and sugary beverages is so large that these should be seen primarily as health taxes. The associated revenue gains are a welcome additional benefit for all countries and could be particularly useful for domestic resource mobilization in low- and middle-income countries.

Governments can and do impose a variety of taxes on tobacco, alcohol, and sugary beverages, including customs duties, value-added or general sales taxes, and excise taxes. Of these, excise taxes are the most important for promoting health because they change the cost to consumers of the taxed products relative to other goods. This leads to larger reductions in consumption of these products than would be the case with customs duties (which directly raise the cost of imports but may have less impact on domestic production) or general sales taxes (which contribute to raising prices across all products).

Extensive evidence shows that increasing tobacco and alcohol prices reduces demand, with similar patterns of evidence emerging for sugary beverages. On average, in low- and middle-income countries, a 10 percent increase in price results in a 5 percent decline in tobacco consumption (NCI 2016), a 6 percent decline in alcohol consumption (Sornpaisarn et al. 2013), and a 12 percent decline in sugary beverage consumption (Powell et al. 2013). These effects are even larger among lower socioeconomic groups and young people – high prices deter initiation and reduce use over the lifetime. For example, a key benefit of raising tobacco taxes is that it reduces the numbers of people who start smoking. In large part, this is because most smokers start smoking when they are young and young people are more responsive to price increases than their elders (NCI 2016).

Furthermore, studies show that higher prices on tobacco and alcohol reduce death and disease.

- Higher tobacco prices and taxes have been found to reduce overall mortality (including deaths from cancers and respiratory diseases), severity of childhood asthma, and hospitalization for heart failure, among other effects (Bowser 2016; Ho et al. 2017; Hatoun et al. 2018). Pregnant women are particularly responsive to tobacco tax and price increases; for example, raising these taxes has been shown to reduce low birthweight births and overall infant mortality (Ringel and Evans 2001).

Raising the price of tobacco and alcohol by increasing excise taxes reduces consumption and saves lives, while generating additional tax revenues. Evidence is accumulating to show that excise taxes on sugary beverages can do the same. Yet, excise taxes on tobacco, alcohol, and sugary beverages are underutilized as a tool to improve health and raise revenues, especially in low- and middle-income countries.

- Higher alcohol prices and taxes lead to reductions in motor vehicle crashes and fatalities; deaths from liver cirrhosis and alcohol dependence; cases of sexually transmitted diseases; homicides, rape, robbery, child abuse, and spousal abuse; and workplace accidents. One review of 50 studies that examined the impact of taxes and prices on various harms caused by alcohol concluded that a 10 percent increase in alcohol taxes was associated with a 3.5 percent decline in all harms associated with alcohol-related disease and injuries (Wagenaar et al. 2009).

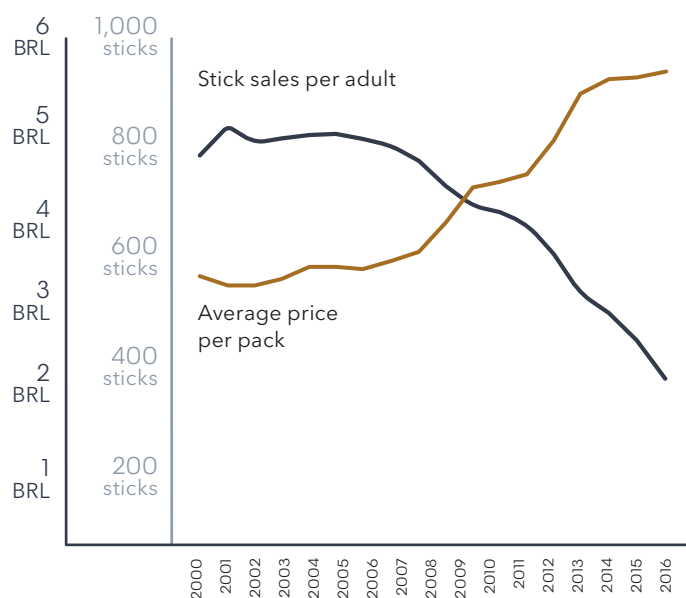
The evidence on how sugary beverage prices and taxes affect health is growing as more jurisdictions implement such taxes. Studies have found that higher beverage prices are associated with lower body weight (Powell et al. 2013); and simulation studies – even those accounting for substitution to other food or drink – suggest that reductions in sugary drink consumption would lower obesity rates and the incidence of diabetes (Finkelstein et al. 2013; Smith et al. 2010; Manyema et al. 2014; Long et al. 2015; Gortmaker et al. 2015). For example, a 10 percent reduction in sugary beverage consumption in Mexico is projected to result in 189,300 fewer cases of type 2 diabetes, 20,400 fewer strokes and heart attacks, and 18,900 fewer deaths over a 10-year period (Sánchez-Romero et al. 2016).

Country Examples

Country experiences show that tobacco excise tax increases are very effective at reducing consumption in countries at all income levels. Examples of middle-income countries that have significantly reformed tobacco tax systems and seen anticipated reductions in consumption and increases in revenue include Brazil, Colombia, Ukraine, South Africa, Turkey, and the Philippines, among others (WBG 2017). Based on strong evidence, 181 Parties have committed to raising tobacco taxes

and prices in Article 6 of the Framework Convention on Tobacco Control (WHO 2014c). For alcohol, experience raising taxes is more limited, but the existing evidence suggests significant opportunities for health and revenue impact. For sugary beverages, countries are in the beginning stages of introducing sugary beverage taxes; yet the evidence to date also finds that imposing sugary beverage taxes reduces consumption and raises additional revenue.

Figure 5: Cigarette Prices and Per Capita Cigarette Sales, Brazil, 2000-2016



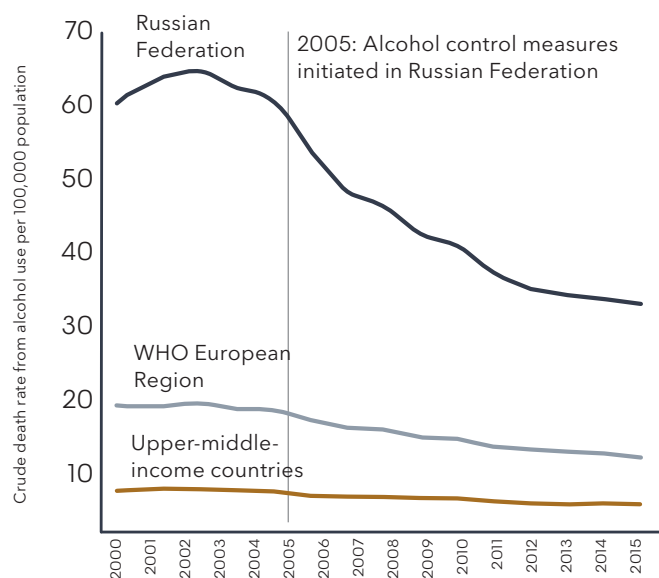
Brazil

Between 2006 and 2011, Brazil increased its cigarette excise tax rates, leading real prices per pack of cigarette to increase by 34 percent and consumption per adult to drop by 19 percent. In 2012, a new mixed tax structure was introduced with increases in specific tax rates above expected inflation. Between 2012 and 2016, real prices increased by 33 percent, and consumption per adult declined almost 50 percent.

Note: Sales from Secretariat of Internal Revenue, population over 15 years; Average price per pack from Brazilian Institute of Geography and Statistics, prices in constant 2013 Brazilian Reals (BRL).

Source: Based on Iglesias 2016 and updated data

Figure 6: Male Alcohol Deaths in the Russian Federation, WHO Euro Region, and UMICs, 2000-2015



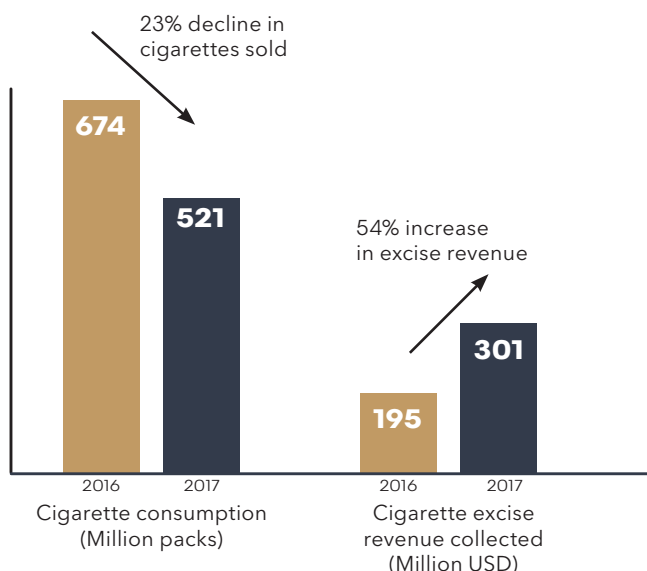
Russia

In 2005, the Russian Federation initiated alcohol control measures, including banning advertisements, restricting availability, and raising the cost of alcohol through taxes and minimum prices. By 2014, these measures had reduced alcohol consumption by about one-third and led to a substantial decline in NCDs and mortality.

Note: Estimates for 2012-15 are projections based on prior years.

Source: World Health Statistics 2017

Figure 7: Packs Sold and Tobacco Tax Revenue Before and After Tax Increase, Colombia, 2016 to 2017

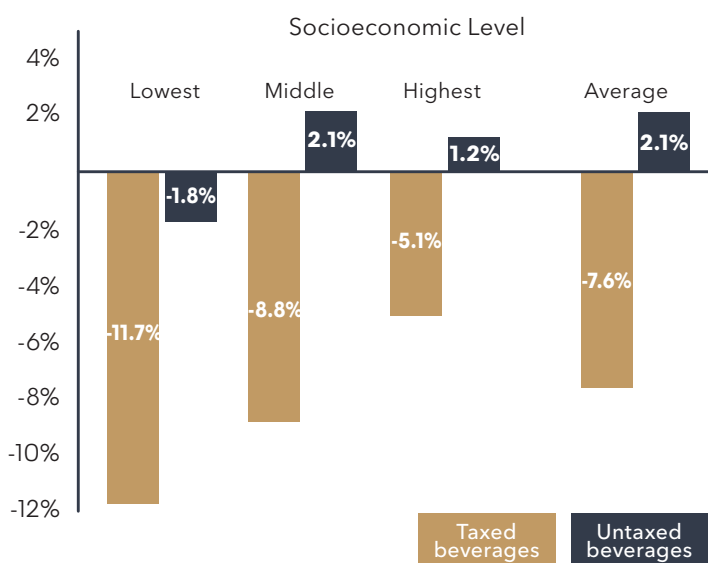


Colombia

Colombia's recent experience with both tobacco and alcohol taxes has had a significant impact on consumption and revenues. In 2016, Colombia increased the specific tax on cigarettes by 200 percent and established a 4 percentage point annual increase on top of inflation. Cigarette consumption decreased by 23 percent in 2017 relative to 2016, while tobacco tax revenues increased by 54 percent. Another reform in the same year increased taxes on alcohol, adopting a combination of a 25 percent ad valorem tax and a specific tax based on alcohol content. The reform increased revenues from these taxes by 17 percent in 2017.

Source: Ministry of Finance, Colombia

Figure 8: Changes in Household Purchases of Taxed and Untaxed Beverages by Socioeconomic Level, Mexico, 2014-15



Mexico

In 2014, Mexico introduced a peso per liter tax on sugary beverages that led to lower per capita consumption of sugary beverages and increased sales of non-taxed beverages like bottled water. Lower-socioeconomic status households responded more to the tax than those at high socioeconomic levels. In 2015, the tax generated revenues of M\$16 billion (about US\$1 billion).

Source: Colchero et al. 2017

Excise taxes are low and unnecessarily complicated in most low- and middle-income countries.

Most countries do not tax tobacco, alcohol, or sugary beverages at high enough levels to significantly discourage consumption. On average, cigarette excise taxes account for about one-third of price (32 percent) in low- and middle-income countries, and about one-half (48 percent) of price in high-income countries (WHO 2017b). Alcohol excise taxes tend to be much lower than tobacco taxes, averaging less than 20 percent of retail price (among 74 countries reporting to WHO in 2012; WHO 2014a). As of June 2018, 20 countries currently impose sugary beverage excise taxes, although the number is growing. Mexico's one peso per liter excise tax raised prices on taxed beverages by about 10 percent (Colchero et al. 2017).

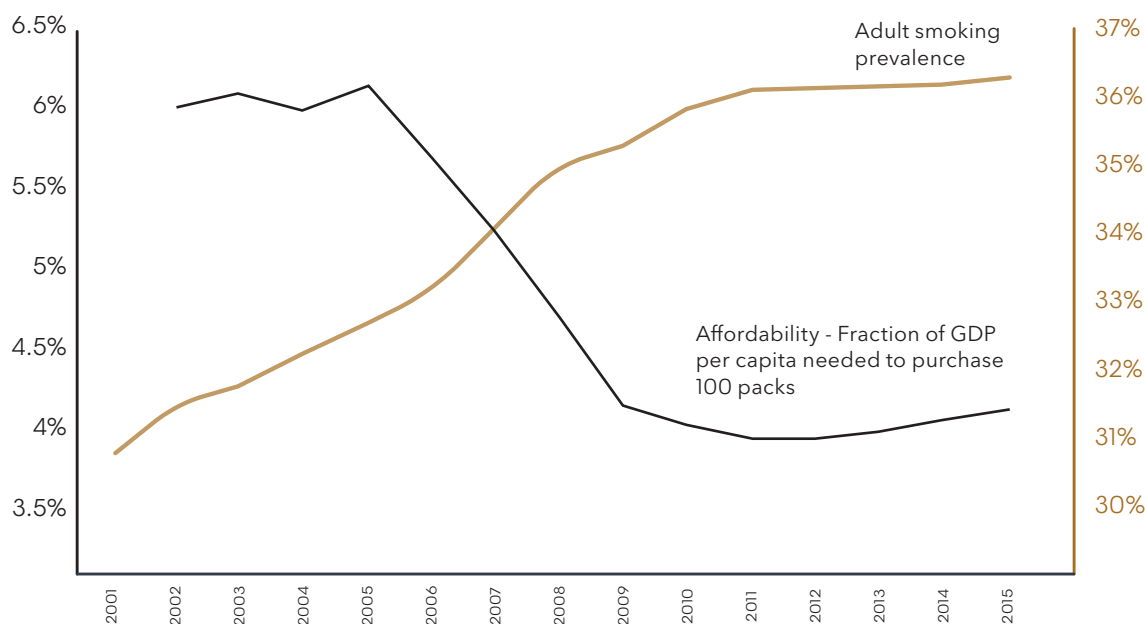
Taxes on tobacco, alcohol, and sugary beverages should be set high enough, and raised quickly enough, to reduce consumption and improve health. The World Bank recommends that all countries increase tobacco excise taxes immediately and by large amounts because this will have a larger impact on consumer behavior than small incremental change (WBG 2017). WHO recommends setting excise taxes on tobacco at a minimum of 70 percent of retail price (WHO 2010). No similar recommendations have been established for alcohol so far. For sugary beverages, currently, WHO recommends tax increases high enough to raise prices by 20 percent (WHO 2016b).

Excise tax structures in many countries are also unnecessarily complicated, making them difficult to

administer and less effective at reducing consumption. Evidence consistently demonstrates that to reduce smoking, uniform specific taxes are better than ad valorem taxes and multi-tiered specific taxes. A uniform specific tax raises the price of all cigarettes, reducing the incentive to substitute lower-taxed cheaper tobacco products and making quitting more attractive (WBG 2017; WHO 2010). For alcohol (Sornpaisarn et al. 2017) and sugary beverages (Chriqui et al. 2013), uniform specific taxes based on quantity, volume, or content are also better than ad valorem taxes and specific taxes that vary by price level. Recent experience with a tiered specific tax based on sugar content for sugary beverages has shown promise in the United Kingdom (Public Health England 2018) and for alcohol content in South Africa (Blecher 2015).

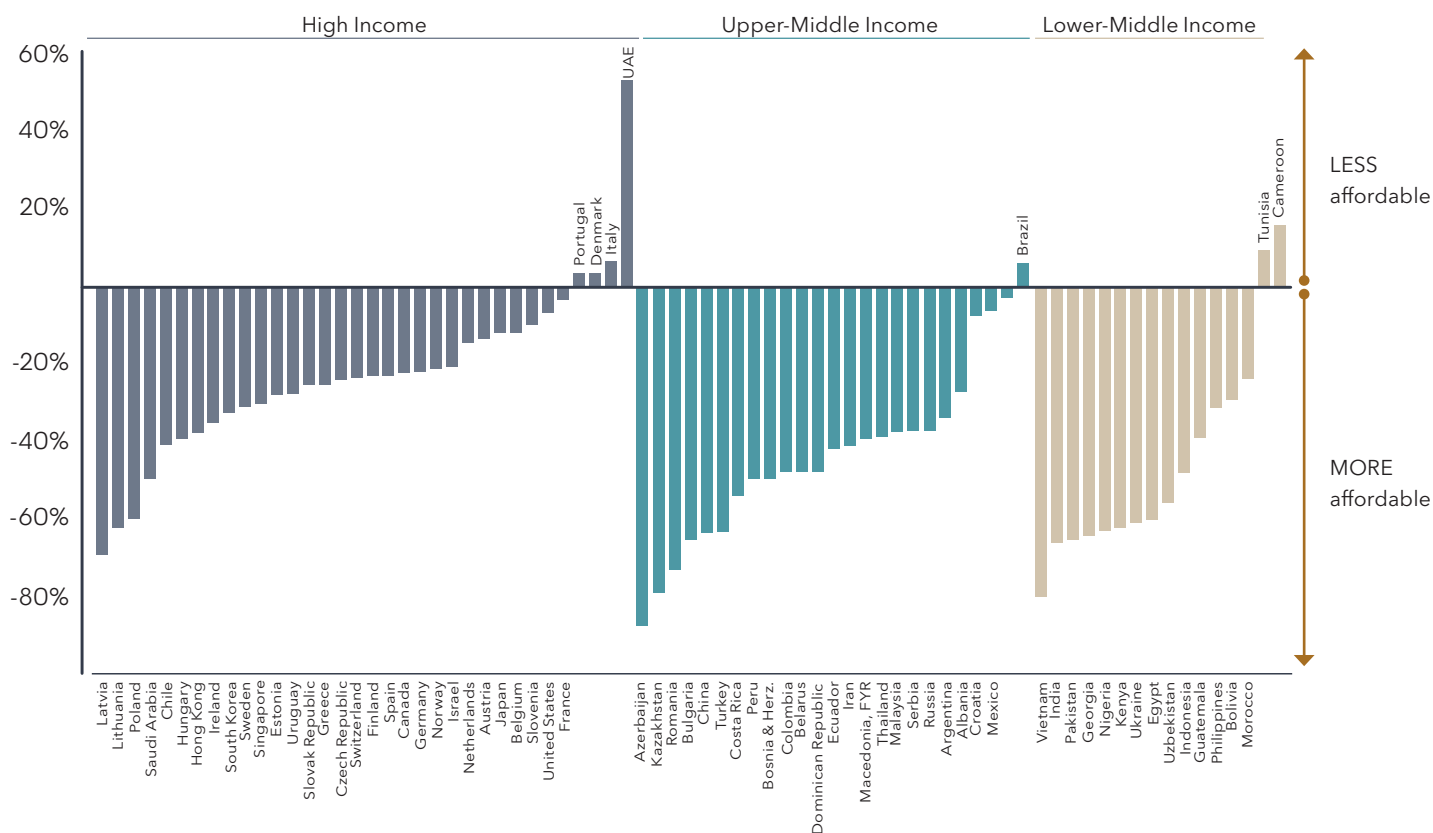
To remain effective, excise taxes on tobacco, alcohol, and sugary beverages need to be regularly adjusted upward to account for income growth and, if they are specific taxes, must be adjusted upward for inflation. While cigarettes have become less affordable in some countries, they have become more affordable in many low- and middle-income countries. For example, the cost of 100 packs of cigarettes in Indonesia fell from about 6 percent of per capita income in 2002 to less than 4 percent in 2015, during which time adult smoking prevalence increased from 30 percent to 36 percent (Figure 9). Beer and sugary beverages have become significantly more affordable in almost all countries in the last two decades (Figures 10 and 11).

Figure 9: Affordability of Cigarettes and Smoking Prevalence in Indonesia, 2001-2015



Source: Chaloupka and Powell, Task Force background paper. Data from Euromonitor and World Bank.

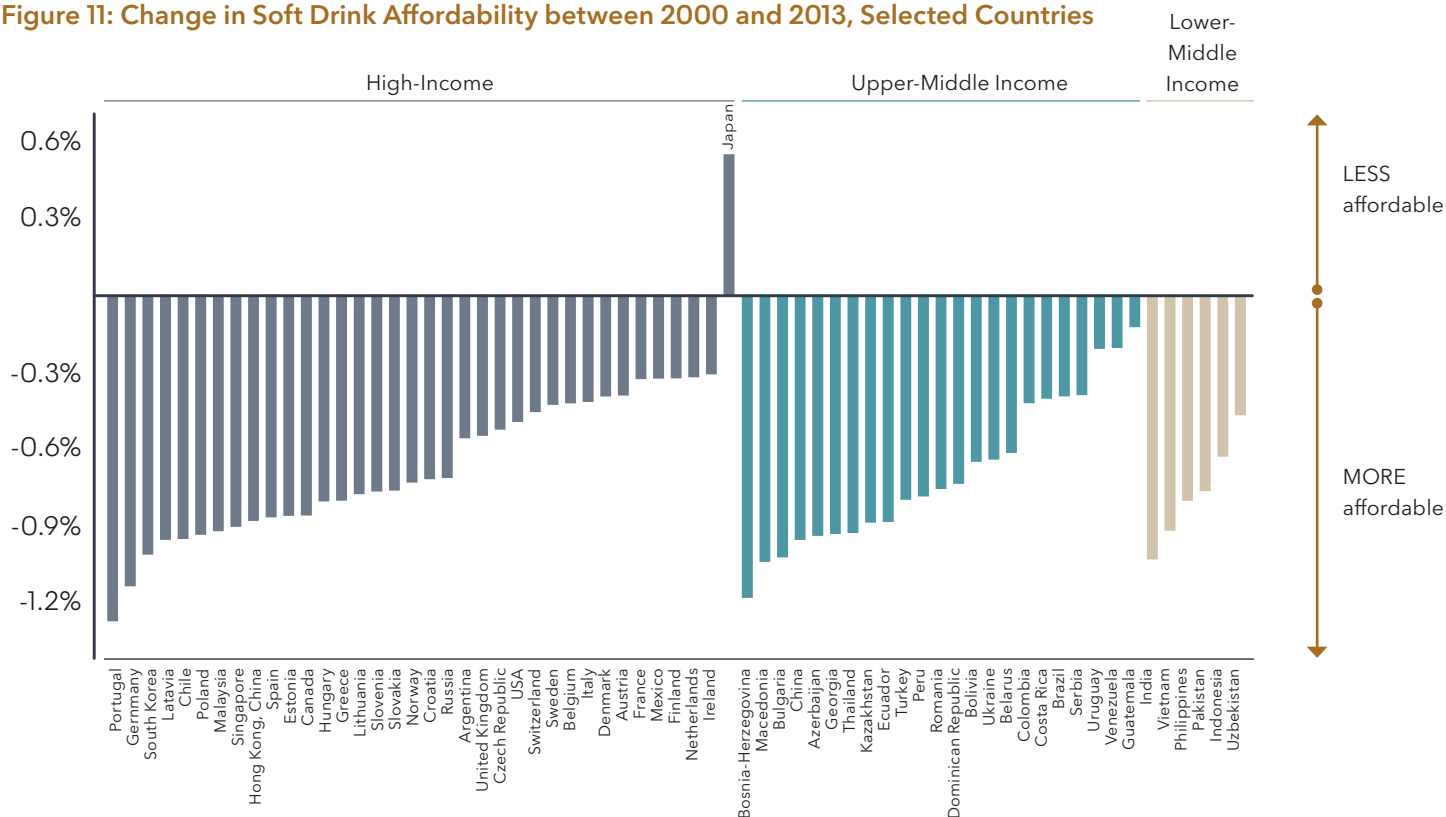
Figure 10: Change in Beer Affordability between 2002 and 2016, Selected Countries



Note: Affordability computed as the price of a liter of beer relative to GDP per capita in a given year.

Source: Chaloupka and Powell, Task Force background paper. Data from Euromonitor and World Bank.

Figure 11: Change in Soft Drink Affordability between 2000 and 2013, Selected Countries



Note: Affordability computed as the price of a liter of soft drink relative to GDP per capita in a given year.

Source: Chaloupka and Powell, Task Force background paper. Data from Euromonitor and World Bank.

Raising excise taxes will save lives and generate revenue.

The Task Force commissioned a study to estimate health and revenue effects from increasing excise taxes on tobacco, alcohol, and sugary beverages (Summan & Laxminarayan 2018). The researchers modeled what the impact would be if all countries implemented a tax increase large enough to raise prices by between 20 and 50 percent from their current levels. The impact of these tax increases was assessed over a 50-year period to account for both the short- and long-term health impacts of the use of such products. The 50-year time horizon makes it possible to capture health benefits that occur with substantial lags. However, even in the short run, such tax increases generate important health benefits and substantial revenues. Additional tax increases in future years would yield additional benefits in terms of health and revenue.

The resulting health effects are very large for tobacco and alcohol, and significant in the case of sugary beverages. Few interventions have the power to save this many lives with a relatively simple policy instrument, and the projected additional revenues from tax increases are substantial.

Tobacco: Raising taxes on tobacco will save millions of lives (Table 1). At the lower end, tax increases that raise prices by 20 percent could avert over 10 million premature deaths during the next 50 years, gaining an estimated 212 million years of life, while raising over US\$1.6 trillion of additional revenues in present discounted value. Higher taxes that raise prices by 50 percent could avert over 27 million premature deaths and provide more than 535 million years of additional life, while raising over US\$3 trillion of additional revenues worldwide over the next 50 years. To provide some perspective for these figures, if all countries raise the price of tobacco by 50 percent through tax increases, the number of deaths averted would be on a par with eliminating all global cancer deaths for 3 years (about 8 million/year).

Table 1: Projected Health and Revenue Impact of Tax Increases on Tobacco

Price increase due to higher tax	Deaths averted (millions)	Years of life gained (millions)	Change in tax revenue (trillions, \$2016 discounted)
20%	10.8	212.0	1.6
30%	16.3	321.4	2.2
40%	21.8	428.6	2.6
50%	27.2	535.7	3.0

Note: Taxes are increased in 2017 sufficiently to raise prices by 20, 30, 40, and 50 percent. The impact of the increases is projected over a 50-year period (2017-2067).

Source: Summan and Laxminarayan 2018

Alcohol: Increasing taxes on alcohol will avert 9 to 22 million premature deaths over the range of tax increases studied (Table 2). Alcohol taxes can bring in the most additional revenue in large part because alcohol taxes are currently low and consumption is widespread. Over 50 years, a tax that increases alcohol prices by 20 percent over current levels could generate almost US\$9 trillion in additional revenues in present discounted value; for a 50 percent increase, the gain could be almost US\$17 trillion in additional revenues – 3 times more than the BRICS country governments collected in revenues in 2017 (US\$5.4 trillion).⁶

Table 2: Projected Health and Revenue Impact of Tax Increases on Alcohol

Price increase due to higher tax	Deaths averted (millions)	Years of life gained (millions)	Change in tax revenue (trillions, \$2016 discounted)
20%	9.4	238.7	8.9
30%	13.7	348.7	12.2
40%	17.9	455.0	14.8
50%	21.9	557.8	16.7

Note: Taxes are increased in 2017 sufficiently to raise prices by 20, 30, 40, and 50 percent. The impact of the increases is projected over a 50-year period (2017-2067).

Source: Summan and Laxminarayan 2018

⁶ The BRICS countries are Brazil, Russia, India, China, and South Africa. Figure calculated from IMF data.

Sugary Beverages: While a tax on sugary beverages only affects one set of products that add sugar to the diet, the impact is still significant (Table 3). Tax increases could reduce sugary beverage consumption enough to lower population levels of obesity and thereby avert 0.8 to 2.2 million premature deaths over 50 years for the lower and higher tax increases, respectively. This is a conservative estimate of the health impact from reducing sugary beverage consumption because it only captures the effects on health through increased body-mass index (BMI) and does not model other effects such as reductions in diabetes. For the same time frame, sugary beverage taxes could contribute substantially to revenues, an additional US\$0.7 to US\$1.4 trillion depending on the level of tax increases.

Table 3: Projected Health and Revenue Impact of Tax Increases on Sugary Beverages

Price increase due to higher tax	Deaths averted (millions)	Years of life gained (millions)	Change in tax revenue (trillions, \$2016 discounted)
20%	0.8	23.7	0.7
30%	1.3	35.0	1.0
40%	1.7	46.5	1.2
50%	2.2	57.8	1.4

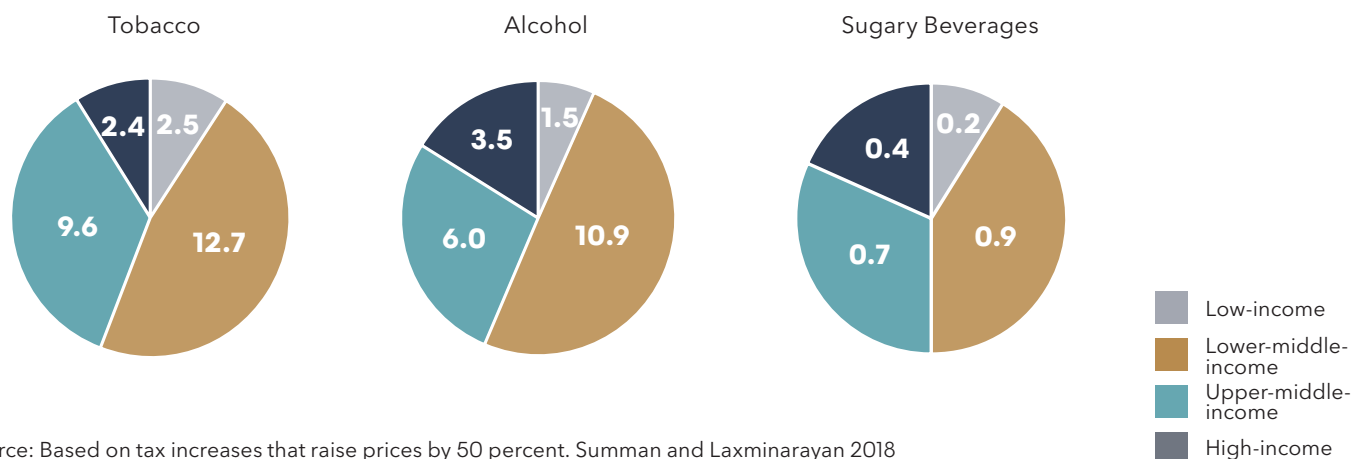
Note: Taxes are increased in 2017 sufficiently to raise prices by 20, 30, 40, and 50 percent. The impact of the increases is projected over a 50-year period (2017-2067).

Source: Summan and Laxminarayan 2018

All products: If taxes were increased to raise prices on all three products by 20 percent, over 21 million premature deaths⁷ could be averted over the next 50 years while raising over US\$11 trillion of additional revenues in present discounted value. Taxes that raise prices by 50 percent could avert over 50 million premature deaths while raising over US\$20 trillion of additional revenues worldwide over the next 50 years. Raising taxes and prices further in future years would save additional lives and raise even more revenues.

By country income group: Significant tax increases on all three products will have the biggest health impact in middle-income countries where more than 75 percent of the world's people live and populations are growing (Figure 12). If taxes increase prices by 20 percent across all three products, lower-middle- and upper-middle-income countries could avert over 10 and 6.5 million premature deaths, respectively. Taxes that increase prices by 50 percent in lower-middle- and upper-middle-income countries could avert 24 and 16 million premature deaths, respectively. When averaged over the 50 years, the higher taxes would prevent over 800,000 deaths in middle-income countries annually. For a sense of scale, this exceeds the annual death toll in 2016 from HIV (~700,000) in these same countries (WHO 2018).

Figure 12: Cumulative premature deaths averted (millions) by product and income group, 2017-2067



Source: Based on tax increases that raise prices by 50 percent. Summan and Laxminarayan 2018

⁷ Simulations were completed for each product using separate models. Adding estimates of the impact of a tax increase on the three products together may result in some double-counting or under-counting (e.g. if the three products act as complements).

Tax increases on these three products would generate the most revenues in middle-income countries. With taxes that raise prices by 20 percent, lower- and upper-middle-income countries could collect an additional US\$2 and US\$4 trillion in present discounted value, respectively. With the higher tax increases, the impact would be substantially larger – collecting an additional US\$4 and US\$8 trillion in present discounted value, for lower- and upper-middle-income countries respectively.

The effects on low-income countries are also substantial. With taxes that raise prices by 20 or 50 percent, low-income countries could avert 1.7 million or 4.2 million deaths, respectively. With a tax that increases prices by 20 percent, low-income countries could raise an additional US\$200 billion over 50 years, while an increase of 50 percent would generate additional revenues of over US\$380 billion. At the higher rate, this is an average of about US\$225 million per country each year – which equals 10 to 15 percent of the average annual revenues raised by these countries between 2012 and 2016.⁸

The models in this analysis used parameters derived from an extensive review of the available literature on price elasticities, country-specific consumption levels and future trends, and the effects of consumption on health. Some benefits of prevented mortality in current and future populations (e.g., due to less secondhand smoke) as well as the benefits from reduced disability were not taken into account. For reduced sugary beverage consumption, the model only estimated the impact on health from the associated reductions in body mass index; the potential direct impact on other outcomes such as diabetes were not included. As a result of these characteristics of the model, the estimates of health impact are probably lower bounds for the benefits of raising these taxes.⁹

Comprehensive policy approaches to reduce use will produce the greatest impact.

The evidence on excise tax policies indicates they are powerful tools to reduce consumption of tobacco, alcohol, and sugary beverages. Additional highly effective measures are available for reducing tobacco, alcohol, and sugary beverage consumption including bans on advertising, promotion, and sponsorship, public information campaigns, warning labels, prohibiting sales to minors, and restricting places and times where products can be purchased or consumed (WHO 2011, 2017a). These non-price measures work by educating consumers, strengthening healthy norms, reinforcing healthy cultural or religious attitudes, reducing the attractiveness and availability of products, and countering behavioral biases that lead to unhealthy consumption. Among these policies, significant tax and price increases are the most cost-effective. To ensure that tax and price increases are effective, policies that complement excise taxes, such as restrictions on price promotions or minimum price laws, may be needed.

These policies work together with excise tax policy. Countries implementing a comprehensive approach to reduce consumption of tobacco, alcohol, and sugary beverages can benefit from synergies among policies to produce significant health gains.

⁸ Calculated by dividing the average US\$0.24 billion additional revenue per country by the population-weighted average revenue per country of US\$2.5 billion (data from World Bank, 2018). The estimate is based on data available for 10 and 13 countries representing 33 to 44 percent of the population of the 34 low-income countries between 2012 and 2016.

⁹ A description of the tax simulation modeling methodology is available at: <https://www.bloomberg.org/program/public-health/task-force-fiscal-policy-health>

Health Taxes on Tobacco, Alcohol, and Sugary Beverages Have a Well-Established Economic Rationale

Economists often argue that consumers know best how to spend their money and that governments should not interfere in the workings of a free market through taxation or other regulations without justification. Many of the Task Force members are trained as economists and acknowledge these views. However, we also know there is a strong economic case for government intervention to correct market failures, particularly when they lead to substantial harm. Evidence from a range of studies finds that the consumption of tobacco, alcohol, and sugary beverages is associated with market failures that lead to significant negative health and economic consequences for consumers, members of their households, and society as a whole.

Markets for tobacco, alcohol, and sugary beverages have significant information failures (Akerlof and Shiller 2015; Basu 2018). Consumers routinely underestimate or are unaware of the full scope of risks of tobacco, alcohol, and sugary beverage consumption. This is particularly true of the young. In addition, producers know that consumption is harmful, yet they aggressively market their products in ways that mislead the public about those health risks.

Consumption of tobacco, alcohol, and sugary beverages imposes costs on others, i.e., negative externalities. Non-smokers, disproportionately women and children, are harmed by exposure to secondhand tobacco smoke. Non-drinkers are often the victims of alcohol-related traffic crashes, homicides, assaults, rapes, child abuse, and spousal abuse. Maternal smoking, drinking, and obesity during pregnancy results in a variety of complications for infants and can affect a child's health later in life. Spending on tobacco, alcohol, and sugary beverages not only harms household members' health but also can divert spending from other goods or services that promote health, such as nutritious foods, education, or good quality housing. Furthermore, wherever healthcare expenditures are pooled through public insurance mechanisms or tax-financed health services, non-consumers bear some part of the costs of treating illness and injury associated with these products.

When consumers are aware of the negative health effects associated with their consumption of tobacco, alcohol, or sugary beverages, they still tend to underestimate the long-term harm from consumption, discounting the costs which often do not occur until later in life, and later regretting their decisions. This is exacerbated in the

The economic rationale for raising excise taxes on tobacco, alcohol, and sugary beverages is well-established. The markets for these products are characterized by significant market failures including information failures and negative externalities that result in consuming harmful products, preventable deaths, and large economic costs to society.

case of addictive substances like tobacco and alcohol¹⁰ because consumers cannot know how their preferences will change after beginning to consume these products and are likely to overestimate their ability to quit or reduce consumption once they start (Akerlof 1991; Gruber and Kőszegi 2001).

Even with these market failures, public action might still be inadvisable if the costs of taxation or regulation are too high relative to the social benefits from improved health. In the case of tobacco and alcohol, the magnitude of the associated harms is so large and taxes are so effective, that public action is fully justified. In the case of sugary beverages, the evidence of effectiveness is emerging, but the harms of excessive consumption are already well-established, the ability of taxes to reduce consumption are proven, the costs of implementation are low, and the trend in consumption is rising in low- and middle-income countries.

A further justification for raising taxes on tobacco, alcohol, and sugary beverages is to shift some of the tax burden away from healthier and more beneficial goods and services (Parry, West and Laxminarayan 2009). For example, countries that are concerned about the burden of taxation on labor and production (often for reasons of international competitiveness) may want to limit their reliance on such taxes to some extent by choosing to tax unhealthy consumption. In simple terms, "taxing 'bads' like tobacco and sugar over 'goods' like savings and income is as close to a free lunch as you can get in economics" (Summers 2018).

The case for excise taxes is strong in markets where prices do not signal the full costs and consequences to users and to society as a whole. Tobacco, alcohol, and sugary beverages all fit this bill.

¹⁰ Researchers are beginning to identify ways in which sugar has addictive properties (e.g., Avena et al. 2008).

Opposition to Health Taxes is Fierce but Flawed

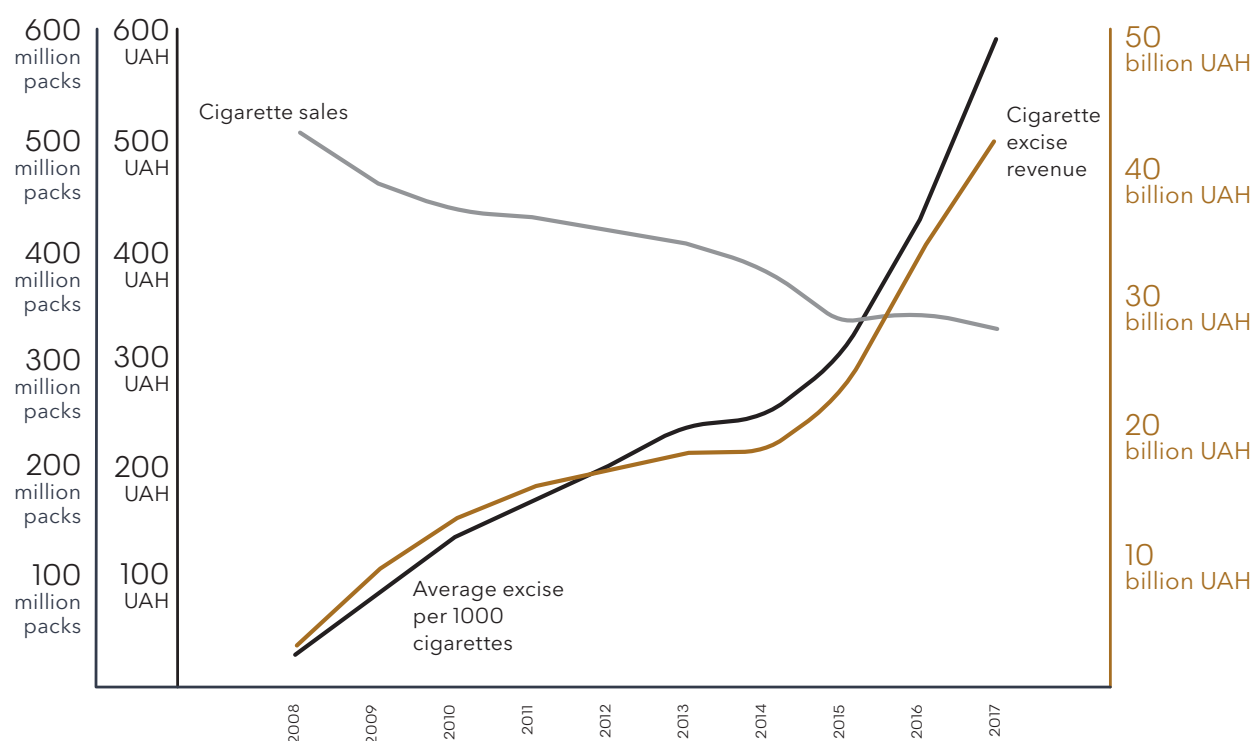
Evidence to support the implementation of effective health taxes on tobacco, alcohol, and sugary beverages is strong. However, governments face strong opposition to taxes from producers and their allies who persistently raise concerns about the impact of raising taxes on revenues, employment, illicit trade, and the poor. Evidence from around the world demonstrates that these arguments are either false or greatly exaggerated, and none justify inaction.

Revenues: Because raising excise taxes reduces consumption, health tax opponents make claims that government revenues will decline. However, tobacco and alcoholic beverages are relatively price inelastic – consumption does indeed fall but by less than price increases. As a result, tax increases on these products raise rather than reduce tax revenues, at minimum in the short- and medium-term. In fact, to date in every country that has raised tobacco taxes by a non-trivial amount, consumption fell and revenues rose (NCI 2016; Figure 13). For products like sugary beverages with an elastic demand, imposing

Implementing health taxes is a test of government effort and resolve. Industries vigorously oppose tax increases with false or misleading statements related to revenues, employment, illicit trade, and impacts on the poor. Most of this criticism fails to stand up to analysis; none of it justifies inaction.

taxes can achieve larger reductions in consumption than for less price-sensitive products and, consequently, they will be relatively less effective at raising revenues over time. In the long run, if higher health taxes and complementary public health measures reduce consumption successfully, tax revenues may eventually begin to fall. However, such a turning point is a long way off, as excise taxes on these products are currently low or non-existent in most countries.

Figure 13: Cigarette Tax Increases Lead to Higher Revenues in Ukraine, 2008-2017

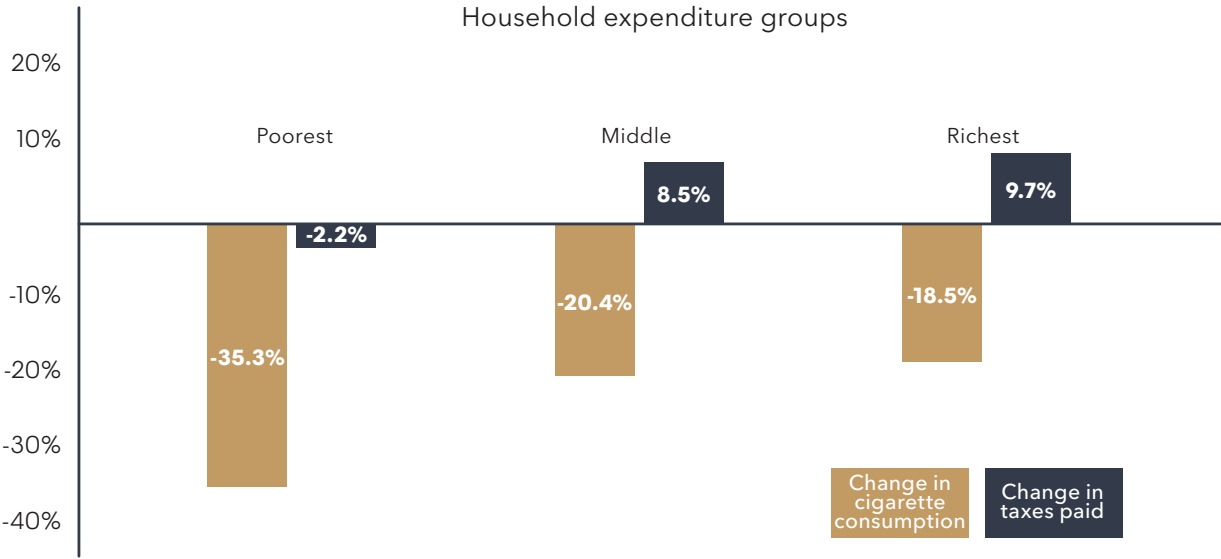


Note: Annual excise tax rates and revenues in current Ukrainian Hryvnia (UAH).
Source: World Bank Group 2017

Employment: Tobacco, alcohol, and sugary beverages, like any industry, employ workers in production and distribution. But claims that taxes, by reducing sales, cause significant job losses misrepresent either the size of the labor force employed in these industries or the manner in which labor markets respond to changing demand patterns. In fact, consumers who reduce spending on taxed products will buy other goods and services, shifting jobs from one sector to another. Governments will also spend tax revenues on other activities, leading to additional job gains. Studies on the overall impact of tobacco control efforts on employment find no net effect or modest gains after considering both job losses from lower tobacco consumption and job gains from alternative consumption (NCI 2016; WBG 2017). Studies looking at alcohol and sugary beverage taxes in the United States and Mexico have reached similar conclusions (Wada et al. 2017; Powell et al. 2014; Guerrero-Lopez et al. 2017).

Impact on the Poor: A disproportionate share of the health and economic costs of consuming tobacco, alcohol, and sugary beverages falls on poorer households. In fact, the net impact on poor households of raising health taxes depends not only on whether the tax is regressive as a share of household income, but also on how much poorer households reduce consumption and benefit in terms of better health and lower economic costs. When considering the overall impact of increasing health taxes on the poor, studies show that the health benefits for this group often outweigh the tax costs. Poorer households tend to be more responsive to health taxes than richer households, giving them a disproportionate share of the health benefits (Sassi et al. 2018; Fuchs and Meneses 2017, 2018; GTEC 2018; Figure 14). In addition, health taxes disproportionately benefit the poor through having fewer sick days, longer and more productive working lives, and spending less on health care. When revenues generated by these taxes are spent on programs that favor the poor, as is the case for tobacco taxes in at least 36 countries (WHO 2016c), their impact will be even more progressive.

Figure 14: Who Pays and Who Benefits: Distributional Impact of a 25 percent Tobacco Tax Increase in Turkey



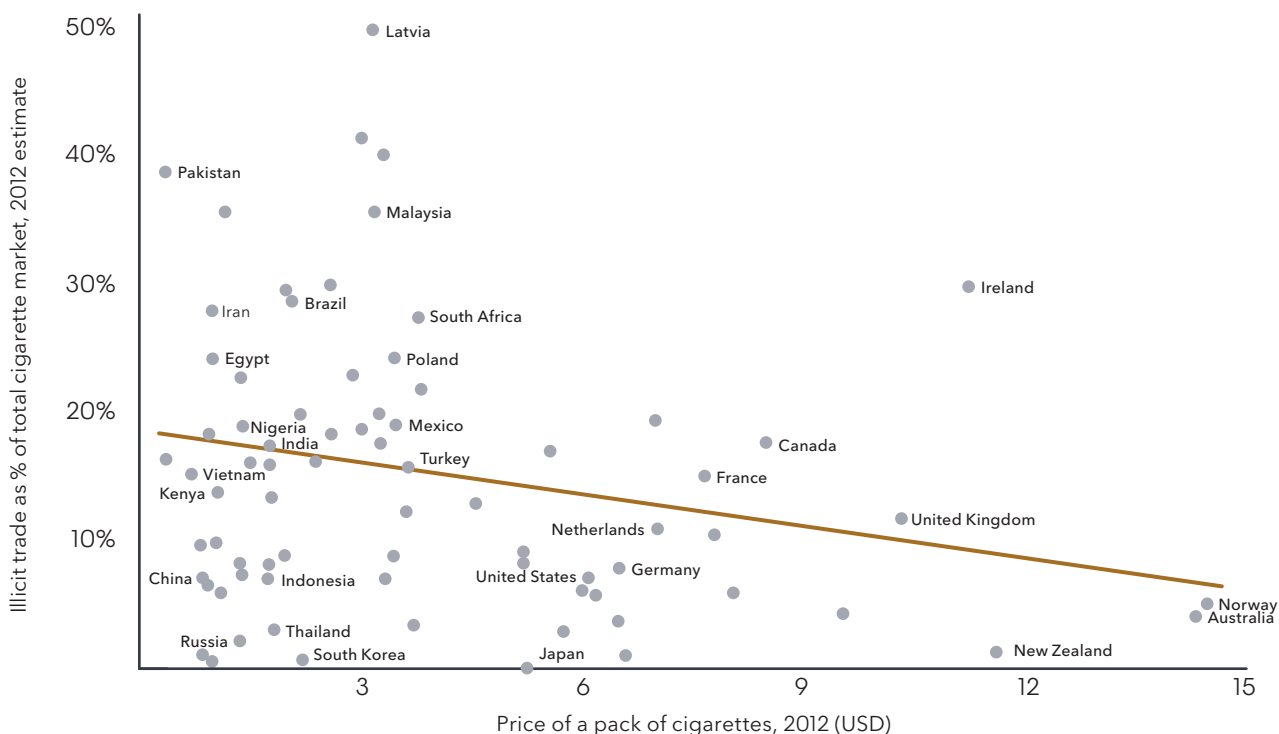
Note: Simulations for household expenditure tertiles using the 2003 Turkish Household Expenditure Survey.
Source: Chaloupka and Blecher 2018; based on Önder and Yürekli 2014

Illicit trade, tax avoidance, and tax evasion: Critics of health taxes persistently argue that higher taxes will encourage tax avoidance and various forms of illicit trade. Yet experience with tobacco tax increases across a wide range of countries finds that increases in tobacco taxes have consistently produced significant revenue and health benefits, even in the presence of revenue leakages. This has not stopped health tax opponents from exaggerating the scale and impact of illicit trade (Ross 2015; Gilmore and Reed 2014; Gilmore et al. 2015). For example, the tobacco industry sponsored research that estimated illicit trade at 35 percent in Hong Kong, 22.9 percent in Poland, 30 percent in South Africa, and 13 percent in Colombia; but independent researchers consistently found lower rates: only 11.9 percent, 14.6 percent, 6.1 percent, and 3 percent, respectively (Chen et al. 2015; Stoklasa and Ross 2014; van Walbeek and Shai 2015; van Walbeek 2015; Maldonado et al. 2018). In fact, higher price levels are actually associated with less illicit trade (Figure 15), suggesting that other factors are at work, including governmental capacity to administer taxes and enforce laws. Governments should improve tax administration and enforcement efforts, but such concerns

should not stop or slow efforts to increase health taxes given their clear health and revenue benefits.

The tobacco, alcohol, and sugary beverage industries have often gone to extraordinary lengths to undermine and influence public policy in ways that are unethical. All three products cause significant harms, yet these industries seek to confuse the public and policymakers by questioning or seeking to censor scientific evidence on the associated health risks.¹¹ As these companies expand into low- and middle-income markets, they use numerous tactics to dissuade countries from curtailing consumption and raising taxes. Investigations have uncovered front organizations to disseminate biased research, contributions to influence election campaigns, efforts to sway public officials to violate provisions of international treaties, and threats of costly lawsuits, in addition to other actions to reduce the impact of raising taxes (Brownell and Warner 2009; WHO 2009; Saloojee and Dağlı 2000; Bond et al. 2010; Moodie et al. 2013; Smith et al. 2013; Gilmore et al. 2015; TCRG 2017; Granheim et al. 2017; Ross et al. 2017; Du et al. 2018; Schaller and Mons 2018).

Figure 15: Higher Cigarette Prices Are Not Associated with More Illicit Trade



Note: Illicit trade estimates as share of total cigarettes sold domestically, Euromonitor 2012; Price of the most sold brand of cigarettes in USD from WHO 2012.

Source: Based on NCI 2016

¹¹ For example, tobacco companies continued to spread doubts that nicotine was addictive decades after they themselves were researching ways to enhance its addictive qualities. More recently, during debates over raising sugary beverage taxes, a Colombian soda company successfully obtained an order from the antitrust authority to halt a public service message by a non-profit organization about the risks of consuming too much sugar. This order was later overruled by a court.

Act Now to Raise Excise Taxes and Prevent Premature Deaths

After reviewing the evidence, this Task Force concludes that consumption of tobacco, alcohol, and sugary beverages plays a significant role in the spread of NCDs, with a large and growing impact in low- and middle-income countries. The Task Force has examined arguments against increasing excise taxes on these three products and finds that common criticisms are not consistent with the evidence but are still promoted widely by industries to oppose or modify tax proposals. The Task Force finds, to the contrary, that excise tax policy is an underutilized yet highly effective policy measure to reduce tobacco, alcohol, and sugary beverage consumption and reap huge health benefits. The Task Force also concludes that taxes on these three products have a strong economic rationale given market failures, negative externalities, and the large and growing health and economic costs they impose on users, their families, and countries.

Given these conclusions, it is particularly urgent for low- and middle-income countries to act now to change the course of the tobacco epidemic, reduce the heavy disease burden from alcohol, and begin to tackle the growing health threat from sugar. Therefore, the Task Force recommends:

- Countries should rapidly and significantly increase tobacco taxes and continue to raise taxes over time to make tobacco products less affordable, to reduce use, and to prevent unnecessary death and disease.
- Countries should rapidly and significantly increase alcohol taxes and continue to raise taxes over time to make alcohol less affordable, to reduce consumption, and to prevent unnecessary death and disease.
- Countries should actively implement policies directed at reducing consumption of sugar as it is a significant contributor to the rise in obesity, diabetes, and other associated noncommunicable diseases. Taxes on sugary beverages in particular are a promising policy tool. While less is known about the impact of sugary beverage taxes compared to tobacco and alcohol taxes given their more recent introduction, it is clear that obesity, diabetes, and associated health problems will increase substantially in the decades ahead if no action is taken.

A significant effort by all countries to raise taxes on tobacco could do more to reduce premature mortality - with greater certainty and at lower cost - than any other single health policy. Raising taxes on alcohol would also significantly reduce premature deaths and disability. Raising taxes on sugary beverages is prudent because their consumption is rising and evidence is accumulating that taxes are an effective tool to incentivize healthier diets and address the growing burden of disease from obesity and diabetes. Taxes on all three products would raise valuable revenues.

- Countries should design their health taxes to be easy to administer, hard to manipulate, and difficult to game. This generally means applying simple uniform specific taxes, which have many advantages over ad valorem excises and over complex and multi-tiered taxes. These taxes should be regularly adjusted for inflation and income growth to make sure that products become less affordable over time.
- In addition to significantly raising health taxes in the short term, countries should improve excise tax administration and enforcement in order to reap the full benefits for health and revenues.
- The international community - including international financial institutions and UN agencies, governments, civil society, and the research community - should take action to support countries to adopt, implement, and significantly raise effective health taxes. This includes actions to support governmental capacity to implement evidence-based health policies, to adopt or revise agreements that constrain domestic health tax reforms, to disseminate evidence on the effectiveness of health taxes, to refute misinformation, and to provide technical assistance and political support to governments that face industry opposition.

Task Force Background Papers¹²

Chaloupka, Frank J. and Lisa M. Powell 2018. "Using Fiscal Policy to Promote Health: Taxing Tobacco, Alcohol and Sugary Beverages." Background Paper for the Task Force on Fiscal Policy for Health. New York: Bloomberg Philanthropies.

Collin, Jeff and Sarah Hill 2018. "Structure and Tactics of the Tobacco, Alcohol and Sugary Beverage Industries." Background Paper for the Task Force on Fiscal Policy for Health. New York: Bloomberg Philanthropies.

Nugent, Rachel 2018. "Tobacco, alcohol and sugary beverages in low- and middle- income countries: harms, consumption and costs." Background Paper for the Task Force on Fiscal Policy for Health. New York: Bloomberg Philanthropies.

Summan, Amit and Ramanan Laxminarayan 2018. "Estimating Global Effects of Tobacco, Alcohol, and Sugary Beverage Taxation." Background Paper for the Task Force on Fiscal Policy for Health. New York: Bloomberg Philanthropies.

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¹² Available at: <https://www.bloomberg.org/program/public-health/task-force-fiscal-policy-health>

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